

## CLAIMS

I claim:

- 1 1. A bale banding machine that bands bundles of material using a thermal and moisture  
2 activated adhesive baleband, said bale banding machine comprising:  
3       means for guiding the baleband around a bale;  
4       means for tightening the baleband around the bale such that portions of the  
5 baleband are overlapped; and  
6       means for sealing the overlapped portion of the baleband, wherein said means for  
7 sealing includes a steam applicator for applying steam to the overlapped portions of the  
8 baleband.
- 1 2. The bale banding machine of claim 1, further comprising means for pressing together  
2 the overlapped portions of the baleband to which the steam is applied.
- 1 3. The balebanding machine of claim 1, wherein said steam applicator comprises a steam  
2 applicator nozzle for discharging a pressurized steam jet between the overlapped portions  
3 of the baleband.
- 1 4. The balebanding machine of claim 3, wherein said sealing means includes an actuator  
2 for providing timed control of steam discharge from the steam applicator nozzle.
- 1 5. The balebanding machine of claim 4, wherein said actuator includes circuit means for  
2 actuating steam discharge from said steam applicator nozzle over specified time intervals.

1 6. The balebanding machine of claim 5, wherein said actuator includes a control circuit  
2 for coordinating the steam discharge intervals with the tightening of the baleband around  
3 the bale.

1 7. The balebanding machine of claim 1, wherein said means for guiding the baleband  
2 around a bale and said means for tightening the baleband around the bale includes a  
3 baleband feed motor.

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1 8. A method for banding bundles of material using a thermal and moisture activated  
2 adhesive baleband, said method comprising:

3       guiding the baleband around a bale;

4       tightening the baleband around the bale such that portions of the baleband are  
5 overlapped; and

6       sealing the overlapped portions of the baleband, wherein said sealing includes  
7 applying steam to the overlapped portions of the baleband.

1 9. The method of claim 8, further comprising pressing together the overlapped portions  
2 of the baleband to which the steam is applied.

1 10. The method of claim 8, wherein said applying steam to the overlapped portions of  
2 the baleband comprises discharging a pressurized steam jet between the overlapped  
3 portions of the baleband.

1 11. The method of claim 10, wherein said discharging a directed steam jet toward the  
2 overlapped portions of the baleband includes providing timed control of steam discharge  
3 from the steam applicator nozzle.

1 12. The method of claim 11, wherein said providing timed control of steam discharge  
2 from the steam applicator nozzle includes actuating steam discharge from said steam  
3 applicator nozzle over specified time intervals.

1 13. The method of claim 12, wherein said providing timed control of steam discharge  
2 from the steam applicator nozzle includes coordinating the steam discharge intervals with  
3 the tightening of the baleband around the bale.

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1 14. A bale banding machine that bands bundles of material using a thermal and moisture  
2 activated adhesive baleband, said bale banding machine comprising:

3 means for guiding the baleband around a bale;

4 means for tightening the baleband around the bale such that portions of the  
5 baleband are overlapped; and

6 means for sealing the overlapped portion of the baleband, wherein said means for  
7 sealing includes an applicator for applying water to the overlapped portions of the  
8 baleband, said water possessing sufficient thermal energy to effect adhesion of said  
9 overlapped portions.

1 15. The bale banding machine of claim 14, further comprising means for pressing  
2 together the overlapped portions of the baleband to which the water is applied.

1 16. The balebanding machine of claim 14, wherein said water applicator comprises a  
2 water applicator nozzle for discharging a pressurized water jet between the overlapped  
3 portions of the baleband.

1 17. The balebanding machine of claim 16, wherein said sealing means includes an  
2 actuator for providing timed control of water discharge from the water applicator nozzle.

1 18. The balebanding machine of claim 17, wherein said actuator includes circuit means  
2 for actuating water discharge from said water applicator nozzle over specified time  
3 intervals.

1 19. The balebanding machine of claim 18, wherein said actuator includes a control  
2 circuit for coordinating the water discharge intervals with the tightening of the baleband  
3 around the bale.

1 20. The balebanding machine of claim 14, wherein said means for guiding the baleband  
2 around a bale and said means for tightening the baleband around the bale includes a  
3 baleband feed motor.

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1 21. A method for banding bundles of material using a thermal and moisture activated  
2 adhesive baleband, said method comprising:

3       guiding the baleband around a bale;

4       tightening the baleband around the bale such that portions of the baleband are  
5 overlapped; and

6       sealing the overlapped portions of the baleband, wherein said sealing includes  
7 applying water to the overlapped portions of the baleband, said water possessing  
8 sufficient thermal energy to effect adhesion of said overlapped portions.

1 22. The method of claim 21, further comprising pressing together the overlapped  
2 portions of the baleband to which the water is applied.

1 23. The method of claim 21, wherein said applying water to the overlapped portions of  
2 the baleband comprises discharging a pressurized water jet between the overlapped  
3 portions of the baleband.

1 24. The method of claim 23, wherein said discharging a directed water jet toward the  
2 overlapped portions of the baleband includes providing timed control of water discharge  
3 from the water applicator nozzle.

1 25. The method of claim 24, wherein said providing timed control of water discharge  
2 from the water applicator nozzle includes actuating water discharge from said water  
3 applicator nozzle over specified time intervals.

1 26. The method of claim 25, wherein said providing timed control of water discharge  
2 from the water applicator nozzle includes coordinating the water discharge intervals with  
3 the tightening of the baleband around the bale.